

The diet of the Subantarctic fur seal (*Arctocephalus tropicalis*) at Marion Island

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Faecal analysis (n = 804 scats) was employed to examine the diet of the Subantarctic fur seal *Arctocephalus tropicalis* at Marion Island over a period of seven years (2000 – 2006). Despite the biases associated with the method, useful information was gained on seasonal and inter-annual fluctuation in the presence of prey species in the diet^{1,2}. The indices used to investigate these variations were percentage numerical abundance, percentage presence and reconstituted body size (mass and length) of prey species taken. The diet was diverse and myctophid species predominated. Cephalopods were minor prey species (n = 39 scats). The five main prey species were *Gymnoscopelus bolini*, *G. piabilis*; *G. fraseri*; *G. nicholsi* and *Protomyctophum tenisoni*. In all respects *G. bolini* predominated throughout the study period, although in most comparisons no statistically significant differences in the relative contribution amongst the main prey species in the diet were found. Seasonal and inter-annual variations in the contributions of these species to the diet presumably resulted from changes in the relative abundance and distribution of prey³. Future research will attempt to relate this variability to environmental variability⁴.

1. Arim, M. & Naya, D.E. Pinniped diets inferred from scats: analysis of biases in prey occurrence. *Can. J. Zool.* **81**, 67-73 (2003).
2. Dellinger, T. & Trillmich, F. Estimating diet composition from scat analysis in otariid seals (Otariidae): is it reliable? *Can. J. Zool.* **66**, 1865-1870 (1988).
3. Hume, F., Hindell, M.D., Pemberton, D. & Gates, R. Spatial and temporal variation in the diet of high trophic level predator, the Australian fur seal (*Arctocephalus doriferus*). *Mar. Biol.* **144**, 407-415 (2004).
4. Croxall J. P. In: *Top predators in Marine Ecosystems: Monitoring predator – prey interactions using multiple predator species* (eds Boyd, I. Wanless, S. & Camphuysen, C.J.) (Cambridge University Press, 2006).